

ABSTRACT

A brake mechanism includes a pedal arm, a beam and a cam. The pedal arm is pivotally connected to the vehicle, while the beam is interposed between the pedal arm and the input rod for transmitting force from the pedal arm to the input rod. The beam is pivotally connected to the pedal arm and rotatable relative thereto. The cam defines a cam profile, and the beam contacts the cam and follows the cam profile as the pedal arm is activated. The cam profile is shaped to adjust the position of the beam relative to the pedal arm as the pedal arm swings relative to the vehicle. In this way, a variable force ratio is provided to maintain brake pedal feel while achieving an acceptable force ratio for failed power situations. The mechanism can be designed such that the force ratio does not drop off further into the pedal travel.